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Tree Pest Leaflets

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TENT CATERPILLARS

(*Malacosoma disstria* Hbn. and *Malacosoma americana* Fab.)

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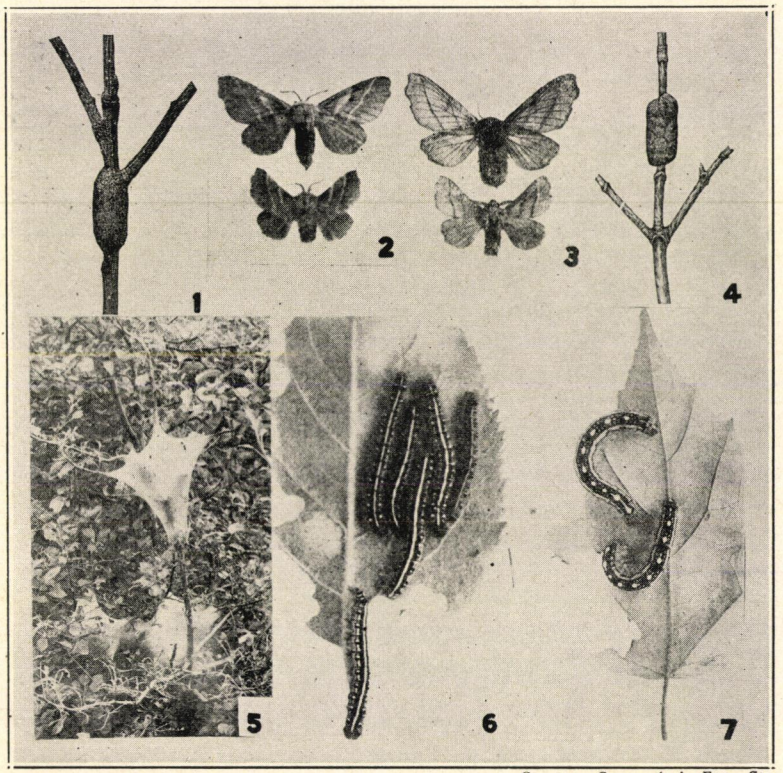

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TENT CATERPILLARS

(*Malacosoma disstria* Hbn. and *Malacosoma americana* Fab.)

History and Distribution: Two closely related insects, the forest tent caterpillar (*Malacosoma disstria* Hbn.) and the eastern tent caterpillar (*M. americana* Fab.), which are frequently confused, often occur in outbreaks in different parts of the Eastern States and Canada. Both are native species and their ravages in orchards, on shade trees, and in forests have attracted attention since Colonial days, though sometimes outbreaks have occurred at rather long and irregular intervals.

THE FOREST TENT CATERPILLAR

Host Trees: The forest tent caterpillar prefers the foliage of maple, oak, poplar, ash, birch, and other deciduous forest and shade trees, and also is commonly found on apple.

Symptoms of Damage: The forest tent caterpillar does not spin a tent, but only a silken mat on the trunk or branch where the caterpillars congregate when at rest or during their molting periods. It is called the forest tent caterpillar because it resembles the eastern tent caterpillar somewhat in all stages. The caterpillars are gregarious until nearly full grown and during spells of cold weather or during molting periods those from one or several egg masses may be found crowded closely together on a tree trunk or beneath a large branch. In periods of abundance many oaks and the trees in many maple-sugar orchards and mixed hardwood forests are seriously injured by complete defoliation.

Cause: The fullgrown caterpillars are approximately 2 inches long. The head and body generally are pale bluish in color, and there is a row of keyholeshaped white spots along the back (Fig. 7). Cocoons are usually spun in a folded leaf or in crevices in the bark.

The moths are light buff brown in color and have a wing expanse of from 1 to 1½ inches, the fore wings having two darker oblique lines near the middle (Fig. 3).

The egg mass contains from 100 to 350 eggs entirely encircling a twig, the eggs being cemented together. The mass is cylindrical or ringlike in shape, ending squarely at each end, and is coated with a dark colored gluelike substance (Fig. 4).

Life History: The caterpillars hatch in April at about the time leaf buds are bursting, and become full-grown late in June. Moths usually issue in July, but occasionally some may be found late in June through to early in August. There is only one brood each year, the egg masses being deposited in July or early in August and the hatching takes place the following April.

THE EASTERN TENT CATERPILLAR

Host Trees: The wild cherries and apple are the favored food plants, but other foliage is fed on when there is a shortage, and such plants as plum, peach, hawthorn, pear, rose, and some of the deciduous forest and shade trees may be attacked.

Symptoms of Damage: The eastern tent caterpillar is usually abundant each year in one or more localities and often over a considerable territory. It is a tent-building species, the caterpillars being gregarious until full-grown and enlarging their tent as they grow. The tents are more or less common in the forks of branches on wild cherry and apple during May and June and are used by the caterpillars as a shelter during molting and resting periods. These tents should not be confused with the webs of the fall webworm (*Hyphantria cunea* Drury), which are often common during the summer and fall. Fall webworms spin webs in the foliage on which they feed and therefore their webs are much larger.

Cause: The full-grown caterpillar is about 2 to 2½ inches long, cylindrical, the head and body deep black with a white stripe along the back, and with many short, irregular, brownish markings along the side of each segment. Also on each side is a row of oval pale-blue spots nearly surrounded by black. The body is sparsely clothed with long, fine, light-brown hairs (Fig. 6).

The feeding season extends over a period of 6 or 7 weeks, and when full-grown the caterpillars migrate in search of a suitable shelter for spinning the cocoons in which they pupate.

The moths have a wing expanse of about 1.2 to 2 inches, are stout bodied, and dull reddish brown. They have two whitish stripes extending obliquely across the forewings (Fig. 2).

The eggs are deposited in masses of from 150 to 350 eggs each encircling a twig. They are cemented together and coated with a dark gluelike substance which hardens and forms an oval-shaped mass, dark brown and varnished in appearance (Fig. 1).

Life History: In New England hatching usually begins about the second or third week in April, the time depending somewhat upon the weather and the location. The caterpillars soon begin to construct their tent of silk in a nearby crotch, enlarging it as they grow (Fig. 5). They become full-grown early in June, and the pupal stage lasts from 10 days to 2 weeks. The egg masses are deposited by the moths during the later part of June or early in July, and remain in that stage until the following April.

CONTROL OF TENT CATERPILLARS

Natural Enemies

Numerous parasites and predators attack these pests and normally contribute largely to their control. Three insect species (order Hymenoptera) are recorded as parasites of the eggs and some 25 or more species of two-and four-winged flies (orders Diptera and Hymenoptera) are known to be parasites of the caterpillars or pupae. Several species of predacious beetles and bugs are known to feed upon the caterpillars.

Many birds and the common toad include these caterpillars in their diet, and everything possible should be done to protect them.

A bacterial disease commonly known as "wilt" at times destroys enormous numbers of the caterpillars.

In some years adverse weather conditions aid materially in the control of these pests.

ARTIFICIAL CONTROL

(a) Shade-Tree and Roadside Protection

Destruction of Eggs: Much can be done in reducing the population of the tent caterpillars by collecting and destroying the egg masses during the winter months when they can be easily seen on the twigs.

Successful campaigns have been carried on in many communities by offering prizes for the largest number of egg masses collected by school children, 4-H Club members, and boy and girl scouts. For every 10 egg masses destroyed during the winter there would be from 1,500 to 2,500 caterpillars less the following spring.

Destruction of Caterpillars: In apple orchards early-spring spraying is ordinarily practised and results in control of tent caterpillars without further effort. For the protection of shade trees, spray as soon as the foliage has opened, using acid lead arsenate at the rate of 3 pounds to 100 gallons of water with 4 ounces of fish oil or linseed oil as an adhesive added to each pound of lead arsenate.

The eastern tent caterpillars, as soon as they have formed tents large enough to be easily seen, can be destroyed by saturating the tents with creosote such as is used in destroying gypsy moth egg clusters. Many communities in Massachusetts use this method with good success. Men carrying a small pail of the creosote and a brush attached to the end of a bamboo pole systematically cover all roadsides of the town.

Destruction of Worthless Trees: The destruction of all wild cherry and seedling and worthless apple trees along roadsides and fence rows would aid materially in reducing infestations or preventing outbreaks of the eastern tent caterpillar and many other pests. This should be planned and carried out through cooperative effort in a community.

(b) Under Extensive Forest Conditions

The control of the forest tent caterpillar in large forest areas or in maple-sugar orchards is very expensive and at present the most efficient method, where conditions and infestation warrant the expense, is to spray the trees with a poison as soon as the foliage is opened.

Powdered acid lead arsenate at the rate of 3 pounds to 100 gallons of water should be used. For an adhesive add 4 ounces of fish oil or linseed oil to each pound of lead arsenate.

Where spraying operations are carried on it is unsafe for several weeks to use the land for pasturage, particularly when an adhesive has been used.

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